

# **Task: File Handling in Python**

Submitted By: **Suzal Kachhadiya**

# 1. Importance of File Handling in Programming

File handling is a fundamental aspect of programming that allows applications to store and retrieve data persistently. Its importance extends across various domains of software development:

- Data persistence ensures information survives program termination
- Enables processing of large datasets that cannot fit in memory
- Facilitates data exchange between different applications
- Supports configuration management through settings files
- Allows for logging operations for debugging and auditing purposes

## 2. Different File Modes in Python

Python offers several modes for file operations, each serving specific purposes:

### Read Mode ('r')

```
# Opening a file in read mode
with open('example.txt', 'r') as file:
    content = file.read()
    print(content)
```

### Write Mode ('w')

```
# Opening a file in write mode (creates new file or overwrites existing one)
with open('output.txt', 'w') as file:
    file.write("This text will be written to the file.\n")
    file.write("Existing content will be overwritten.")
```

### Append Mode ('a')

```
# Opening a file in append mode (adds to existing content)
with open('log.txt', 'a') as file:
    file.write("This text will be appended to the end of the file.\n")
```

### Exclusive Creation Mode ('x')

```
with open('new_document.txt', 'x') as file:
    file.write("This file will only be created if it doesn't already exist.\n")
    file.write("If the file exists, a FileExistsError will be raised.")
```

### 3. Practice Notebook File

<https://colab.research.google.com/drive/1qx-Q830q4Pp1xx-fcfWsKrefOza76EoF?usp=sharing>